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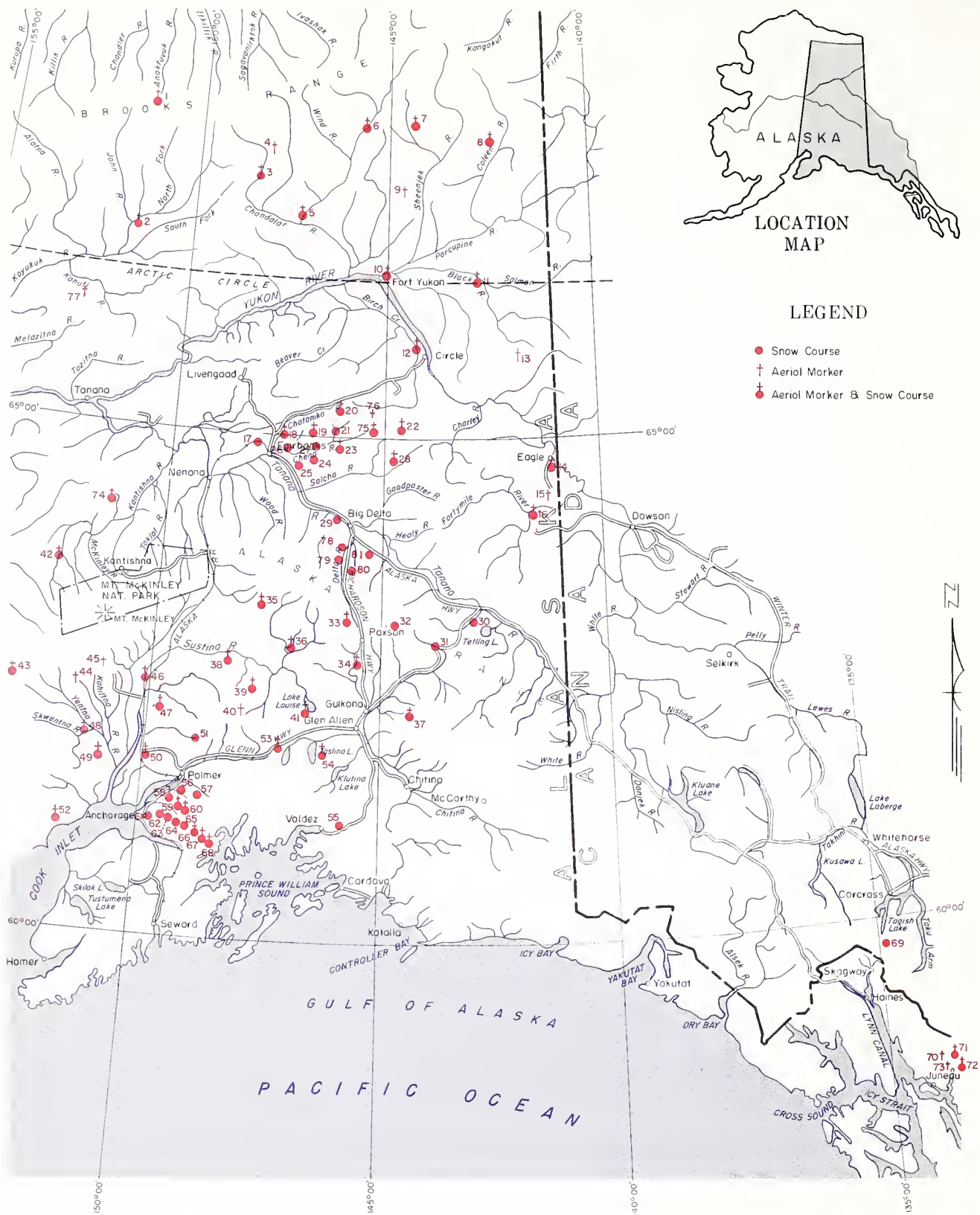
CURRENT SERIAL RECORDS

FEDERAL - STATE - PRIVATE
COOPERATIVE SNOW SURVEYS
for
ALASKA

U. S. DEPARTMENT of AGRICULTURE , SOIL CONSERVATION SERVICE
and
ALASKA SOIL CONSERVATION DISTRICT

Data included in this report were obtained by the agencies named above in cooperation with the U.S. Army Corps of Engineers, Alaska Power Administration, Alaska Highway Dept., Alaska Department of Fish and Game and University of Alaska, Greater Anchorage Area Borough, and others.

AS OF
MAR. 1, 1968



SNOW SURVEYS

for

ALASKA

Report Prepared by

T. G. FREEMAN, SNOW SURVEY SUPERVISOR

Issued by

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

BLAINE O. HALLIDAY, STATE CONSERVATIONIST
P. O. BOX F, PALMER, ALASKA

INDEX OF ALASKA SNOW COURSES

MAP NO.	COURSE NAME	COURSE NO.	ELEV.	MAP NO.	COURSE NAME	COURSE NO.	ELEV.
1	Anaktuvuk Pass	51TT1A	2100	42	Lake Minchumina	52001A	730
2	Bettles Field	51RR1A	640	43	Farewell Lake	53NN1A	1090
3	Chandalar Lake	48SS1A	2040	44	Chelatna Lake	51NN1a	1650
4	Squaw Lake	48SS2a	2150	45	Peters Hills	50NN1a	2010
5	Venetie	46SS1A	610	46	Talkeetna	50NN2	350
6	Arctic Village	45TT1A	2300	47	Bald Mt. Lake	49NN1A	2150
7	Koness Lake	44SS1A	1790	48	Skwentna	51MM1A	158
8	Coleen River	42SS1A	1100	49	Alexander Lake	50MM1A	200
9	Vundik Lake	43SS1a	950	50	Willow Airstrip	59MM2	150
10	Fort Yukon	44RR1A	425	51	Independence Mine	49MM7	3300
11	Black River	42RR1A	650	52	McArthur	51LL1A	120
12	Circle City	44QQ3A	600	53	Sheep Mountain	45MM1	2700
13	Bull Lake	42QQ1a	950	54	St. Anne's Lake	46MM1A	1985
14	Eagle Village	41PP1A	900	55	Worthington Glacier	45MM2	2400
15	Boundary	41PP3A	3300	56	Moraine	48MM1	2100
16	Chicken Airstrip	41PP2A	1650	57	Ptarmigan	48MM2	3000
17	Yak Pasture	47PP1	540	58	Marmot	48MM8A	2000
18	Cleary Summit	47QQ1A	2230	59	Goat	48MM7A	3200
19	Little Chena	46QQ2A	2200	60	Grizzly	48MM4A	5000
20	Mt. Ryan	46QQ1A	2950	61	Arctic Valley #1	49MM1	500
21	Chena Hot Springs	46QQ3	1250	62	Arctic Valley #2	49MM2	1000
22	Big Windy	44QQ2A	3850	63	Arctic Valley #3	49MM3	2030
23	Munson Ridge	46PP1A	3100	64	Arctic Valley #4	49MM4	2330
24	French Creek	46PP2	2010	65	Arctic Ski Bowl	49MM5	3000
25	Little Salcha	46PP3	1500	66	Bird Creek	49MM6A	2350
26	Glenn Creek	47PP2	925	67	Ship Creek	49MM7A	1750
27	Colorado Creek	46PP4	750	68	Indian Pass	49MM8A	2350
28	Caribou Mine	45PP2A	1115	69	Log Cabin (B.C.)	35KK1	2880
29	Big Delta	45PP1	975	70	Upper Long Lake	33JJ2a	1000
30	Tok Junction	43001	1650	71	Long Lake	33JJ1A	1075
31	Mentasta Pass	43NN1	2430	72	Speel River	33JJ3A	275
32	Mankomen Lake	44NN1	3050	73	Crater Lake	33JJ4a	1750
33	Fielding Lake	45001A	3000	74	Wien Lake	55PP1A	1020
34	Haggard Creek	45NN1A	2540	75	Upper Chena	44QQ3A	3000
35	Monahan Flat	47001A	2710	76	Wolf Creek	44QQ4a	3850
36	Clearwater Lake	46NN1A	3100	77	Lake Todatonten	52RR1a	985
37	Sanford River	44NN2a	2280	78	Ft. Greely	45001	1420
38	Fog Lakes	48NN1A	2270	79	Meadows Road	45002	1570
39	Oshetna Lake	47NN1A	2950	80	Donnelly Dome	45003	2200
40	Little Nelchina	47NN2a	4160	81	Granite Creek	45004	1235
41	Lake Louise	46NN2A	2400				

MARCH 1968

Snow cover varies greatly throughout Alaska this year. Heavy snowfall during the early winter resulted in a considerably greater than normal snowpack on the Chena watershed, near Fairbanks, and that portion of the Alaska Range Draining into the Tanana River. The western section of the Talkeetna mountains and parts of the Brooks Range also have a considerably heavier than normal snowpack.

Warm weather and rain late in February caused much of the snow to melt in the Matanuska Valley and Anchorage area. Melting has also occurred in parts of the Copper River basin and lower Kuskokwim Valley. Much of the winter precipitation in southeast Alaska came as rain. In general, the snowpack in southeast Alaska is less than normal.

Two dry months prior to freezeup caused a considerable loss of soil moisture in the interior of Alaska. Although heavy summer rains had caused very wet soils earlier, moisture levels were quite low by mid-October. It is expected that a good portion of the spring snowmelt will be absorbed by the soil.

A total of thirteen snow courses, or aerial markers, were added to the Alaska network during the past year. Surveys at two of these stations will be taken by the U.S. Forest Service. Three index snow stations were established and will be operated by the U.S. Geological Survey on the Gulkana and Wolverine glaciers. Measurements from these stations will be reported in the Alaska Snow Bulletin.

YUKON above Rampart.

The Alaska portion of the Upper Yukon drainage has from near normal to considerably above normal snow cover. Much more than average snow depth and water content were measured on the Chandalar Lake and Arctic Village snow courses. Snow densities at all courses throughout the drainage area were much higher than usual.

TANANA - CHENA

Snow cover is generally heavy in the Chena River watershed. Measurements taken on snow courses in this area indicate a snowpack approximately 140% of average for the short period of record, and 120% of last year. High temperatures during late February and early March caused some decrease in snow depth in low elevation areas. The Upper Tanana drainage is also generally above average. Snow courses at Fielding Lake and Mentasta Pass have more snow than normal for March 1. Part of the shallow snow cover in the Big Delta area was melted during the warm period late in February.

MATANUSKA-SUSITNA-COPPER

Snow cover on the Matanuska and on portions of the Copper River drainage is below average for March 1. Most of the Susitna watershed has a heavier than normal snowpack. The course at Bald Mountain Lake had an average water content of 11.7 inches, which is more than twice the average for the short period of record.

KUSKOKWIM

Warm weather has greatly reduced the snow cover on the lower elevations in the Kuskokwim drainage. Measurements taken on the Lake Minchumina and Farewell Lake snow courses indicate an inch less water than last year's March 1 measurement.

KOYUKUK

Very deep heavy snow covers the Koyokuk watershed. The snow course at Bettles Field had a depth of 52 inches, with a water equivalent of 11.9 inches. This is 200% of the measurement taken on March 1 last year. An aerial snow marker was installed at Lake Todatonten last summer. A depth of 41 inches was measured at this station.

COASTAL DRAINAGE

High elevation snow in the Coastal drainage near Anchorage is greater than for the past few years. Much of the lower elevation snow melted during the last week of February.

SNETTISHAM DRAINAGE

Snow surveys have been made in the Snettisham drainage for the past four years. Less than half the amount of snow-water equivalent was measured this year as of March 1 than was recorded last year. This is 45% of the average of the previous three years.

ALASKA SNOW SURVEYS

Previous

DRAINAGE BASIN AND SNOW COURSE	MAP NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT		YEARS OF RECORD
					LAST YEAR	AVERAGE *	
YUKON Drainage:							
Chandalar Lake	3	3/5/68	30	5.6	2.7	2.6	2
Squaw Lake	4	3/6/68 A	29	5.4 E	2.6	-	1
Venetie	5	3/5/68	17	3.1	2.6	2.6	3
Arctic Village	6	3/4/68	25	4.2	2.3	2.9	4
Koness Lake	7	3/4/68	22	3.5	2.8	-	1
Coleen River	8	3/4/68 A	20	3.2 E	2.9	2.6	3
Vundik Lake	9	-	-	-	3.1	-	1
Fort Yukon	10	3/4/68	17	3.1	3.1	3.1	3
Black River	11	3/4/68 A	27	5.4 E	3.8	3.4	3
Circle City	12	3/4	24	4.7	4.4	3.5	3
Bull Lake	13	3/4/68 A	27	5.4	4.3	-	1
Eagle Village	14	3/3/68	26	5.8	5.0	4.3	3
Boundary	15	3/3/68	28	5.6 E	6.2	-	1
Chicken							
Airstrip	16	3/3/68	21	3.7	3.8	3.2	3
Log Cabin	69	3/1/68	26	4.9	11.3	12.6	7
TANANA-CHENA							
Drainage:							
Yak Pasture	17	2/26/68	26	5.0	4.6	3.9	6
Cleary Summit	18	1/10/68	24	5.0	-	-	0
		2/1/68	32	6.0	-	-	0
		2/26/68	31	6.6	4.6	4.8	7
Little Chena	19	1/12/68A	21	3.8	-	-	0
		2/9/68	28	6.0	-	-	0
		2/29/68	28	6.0	-	4.0	3
Mt. Ryan	20	1/12/68A	24	4.3	-	-	0
		2/9/68	32	7.2	-	-	0
		2/29/68	33	7.2	-	4.1	3
Chena Hot							
Springs	21	1/12/68	18	3.3	-	-	0
		2/9/68	24	4.6	-	-	0
		2/29/68	23	4.9	4.5	3.1	4
Big Windy	22	1/12/68A	21	4.2	-	-	0
		2/9/68	19	4.6	-	-	0
		2/29/68	18	4.6	-	1.4	3
Munson Ridge	23	1/12/68A	32	6.4	-	-	0
		2/9/68	44	10.7	-	-	0
		2/29/68	47	13.5	8.5	8.8	4
French Creek	24	1/15/68	21	4.0	-	-	0
		2/1/68	35	7.1	-	-	0
		2/26/68	31	7.5	8.1	5.9	5
Little Salcha	25	1/15/68	19	3.4	-	-	0
		2/1/68	37	6.7	-	-	0
		2/26/68	32	7.1	6.4	5.2	5
Glenn Creek	26	1/8/68	16	2.9	-	-	0
Wolf Creek	76	1/12/68A	38	7.6	-	-	0
		2/9/68	24	6.0	-	-	0
		2/29/68	28	7.0	-	-	0

(*) Average for Period of Record

ALASKA SNOW SURVEYS

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					LAST YEAR	AVERAGE *	
TANANA-CHENA							
(Continued)							
Upper Chena	75	1/12/68A	34	6.5	-	-	0
		2/9/68	40	9.3	-	-	0
		2/29/68	37	9.2	-	-	0
Colorado Creek	27	1/10/68	19	3.4	3.0	3.4	2
		2/9/68	27	5.2	4.3	4.2	2
		2/29/68	24	5.2	4.5	5.2	2
Caribou Mine	28	1/12/68	20	3.4	-	-	0
		2/9/68	30	5.7	-	-	0
		2/29/68	21	4.8	5.5	3.8	2
Big Delta	29	2/29/68	19	3.5	3.7	2.8	7
Tok Junction	30	2/28/68	23	4.5	4.2	3.4	7
Mentasta Pass	31	2/28/68	33	6.7	4.4	4.2	5
Gulkana Glacier	1	2/18/67	84	25.2	-	-	-
Fielding Lake	33	2/27/68	55	12.7	5.4	8.1	6
Fort Greely	78	2/2/68	20	2.9	4.1	-	1
		2/27/68	19	3.6	4.8	-	1
Meadows Road	79	2/2/68	14	1.9	3.5	-	1
		2/27/68	11	2.6	4.1	-	1
Donnelly Dome	80	2/2/68	26	5.1	7.2	-	1
		2/27/68	24	5.9	10.4	-	1
Granite Creek	81	2/2/68	22	3.0	-	-	0
		2/28/68	18	3.6	-	-	0
Bonanza Creek	-	2/26/68	29	5.8	-	-	0
Wien Lake	74	3/6/68	19	4.0	-	-	0
COPPER RIVER							
Drainage:							
Mankomen Lake	32	2/1/68	33	5.6	3.0	-	1
					4.6	-	1
Haggard Creek	34	2/7/68 A	28	5.0	3.8	4.5	2
		2/27/68	31	6.0	4.2	4.0	3
Sanford River	37	2/7/68	23	4.2	3.2	-	1
		2/29/68	23	5.0	6.3	-	1
St. Anne's Lake	54	2/7/68	27	4.9	2.9	3.1	3
		3/1/68	29	6.4	4.8	4.3	3
MATANUSKA-Susitna							
Drainage:							
Monahan Flat	35	2/7/68	32	6.6	3.4	4.4	2
		2/29/68A	39	8.2E	5.1	5.7	3
Clearwater Lake	36	2/7/68 A	20	4.0	3.1	3.8	2
		2/29/68A	21	4.4E	4.4	4.8	2
Fog Lakes	32	2/6/68	24	5.5	1.9	1.6	3
		2/29/68	26	5.6	2.3	2.2	3
Oshetna Lake	39	2/8/68	14	2.4	2.9	3.0	2
		3/1/68	16	3.0	3.9	2.9	4
Little Nelchina	40	2/8/68A	14	2.8E	-	-	0
		3/1/68A	22	4.4E	-	-	0

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DRAINAGE BASIN AND SNOW COURSE	MAP NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT		YEARS OF RECORD
					LAST YEAR	AVERAGE *	
MATANUSKA-SUSITNA (Continued)							
Lake Louise	41	2/7/68	19	3.2	3.0	3.3	2
		3/1/68	22	4.3	4.4	5.7	3
Chelatna Lake	44	2/6/68A	33	8.2E	7.0	7.0	3
		2/29/68A	36	9.0E	7.8	9.0	4
Peters Hills	45	2/6/68A	44	11.0E	-	-	0
		2/29/68A	66	16.5E	-	-	0
Talkeetna	46	2/6/68	31	8.4	4.6	-	1
		2/29/68	40	10.6	5.6	-	1
Bald Mtn. Lake	47	2/29/68	44	11.7	-	4.8	3
Skwentna	48	2/5/68	39	8.5	6.3	-	1
		2/29/68	48	11.3	7.2	-	1
Alexander Lake	49	2/5/68	33	8.3	6.3	7.7	3
		2/29/68	40	10.5	7.5	10.1	4
Willow Airstrip	50	2/6/68	13	3.1	5.7	6.5	3
		3/1/68	23	4.8	6.3	6.6	4
Independence							
Mine	51	-	-	-	13.1	12.5	3
Sheep Mountain	53	2/28/68	24	3.9	5.3	3.4	3
KUSKOKWIM Drainage:							
Lake Minchumina	42	3/6/68	21	4.2	5.2	-	1
Farewell Lake	43	3/6/68	14	3.6	4.7	-	1
KOYUKUK Drainage:							
Anaktuvuk Pass	1	3/5/68	20	4.0	2.7	-	1
Bettles Field	2	3/6/68	52	11.9	5.9	-	1
Lake Todatonten	77	3/6/68A	41	8.2E	-	-	0
COASTAL Drainage:							
McArthur	52	2/5/68A	65	19.5E	9.6	10.0	3
		2/29/68A	69	21.4E	18.2	18.6	4
Worthington							
Glacier	55	-	-	-	12.6	11.5	10
Moraine	56	3/7/68	19	6.3	5.8	-	-
Ptarmigan	57	3/7/68	28	7.1	7.5	-	-
Marmot	58	3/7/68	38	13.1	16.0	-	-
Goat	59	3/7/68	34	9.7	5.8	-	-
Grizzly	60	3/7/68	59	21.0	11.2	-	-
Arctic Valley #1	61	1/31/68	8	1.6	2.8	3.9	2
		2/28/68	T	T	3.5	3.4	4
Arctic Valley #2	62	1/31/68	6	1.0	2.8	3.8	2
		2/28/68	T	T	3.6	3.6	4
Arctic Valley #3	63	1/31/68	23	5.5	3.8	4.2	2
		2/28/68	24	5.4	4.7	4.9	4
Arctic Valley #4	64	1/31/68	26	6.7	4.2	4.5	2
		2/28/68	29	7.2	5.5	5.3	4
Arctic Ski Bowl	65	1/31/68	33	10.9	10.7	9.7	2
		2/28/68	45	14.0	13.2	10.5	4

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ALASKA SNOW SURVEYS

Previous

DRAINAGE BASIN AND SNOW COURSE	MAP NO.	DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT		YEARS OF RECORD
					LAST YEAR	AVERAGE *	
MATANUSKA-SUSITNA (Continued)							
Bird Creek	66	2/1/68	41	14.3	9.2	-	1
		2/28/68	52	17.2	11.8	-	1
Ship Creek	67	2/1/68	34	9.4	5.4	-	1
		2/28/68	38	10.6	7.2	-	1
Indian Pass	68	2/1/68	52	16.9	11.6	-	1
		2/28/68	70	21.0	14.4	-	1
GLACIER STATIONS							
Wolverine Glacier #1		1/26/68	80	32.7	-	-	-
Wolverine Glacier #2		1/30/68	120	55.1	-	-	-
SOUTHEAST ALASKA							
Upper Long Lake	70	2/28/68A	48	16.7	49.3	37.8	3
Long Lake	71	2/28/68	63	21.6	56.4	42.7	3
Speel River	72	2/28/68	48	17.0	38.2	34.3	3
Crater Lake	73	2/28/68	72	23.8	68.0	60.3	3
Douglas Ski Bowl	-	3/2/68	52	19.7	-	-	0

(*) Average for Period of Record

TO RECIPIENTS OF WATER SUPPLY OUTLOOK REPORTS:

Most of the usable water in western states originates as mountain snowfall. This snowfall accumulates during the winter and spring, several months before the snow melts and appears as streamflow. Since the runoff from precipitation as snow is delayed, estimates of snowmelt runoff can be made well in advance of its occurrence. Streamflow forecasts published in this report are based principally on measurement of the water equivalent of the mountain snowpack.

Forecasts become more accurate as more of the data affecting runoff are measured. All forecasts assume that climatic factors during the remainder of the snow accumulation and melt season as they affect runoff will add to be an effective average. Early season forecasts are therefore subject to a greater change than those made on later dates.

The snow course measurement is obtained by sampling snow depth and water equivalent at surveyed and marked locations in mountain areas. A total of about ten samples are taken at each location. The average of these are reported as snow depth and water equivalent. These measurements are repeated in the same location near the same dates each year.

Snow surveys are made monthly or semi-monthly from January 1 through June 1 in most states. There are about 1400 snow courses in Western United States and in the Columbia Basin in British Columbia. In the near future, it is anticipated that automatic snow water equivalent sensing devices along with radio telemetry will provide a continuous record of snow water equivalent at key locations.

Detailed data on snow course and soil moisture measurements are presented in state and local reports. Other data or reservoir storage, summaries of precipitation, current streamflow, and soil moisture conditions at valley elevations are also included. The report for Western United States presents a broad picture of water supply outlook conditions, including selected streamflow forecasts, summary of snow accumulation to date, and storage in larger reservoirs.

Snow survey and soil moisture data for the period of record are published by the Soil Conservation Service by states about every five years. Data for the current year is summarized in a West-wide basic data summary and published about October 1 of each year.

PUBLISHED BY SOIL CONSERVATION SERVICE

D. A. WILLIAMS, Administrator

The Soil Conservation Service publishes reports following the principal snow survey dates from January 1 through June 1 in cooperation with state water administrators, agricultural experiment stations and others. Copies of the reports for Western United States and all state reports may be obtained from Soil Conservation Service, Western Regional Technical Service Center, Room 507, 701 N. W. Glisan, Portland, Oregon 97209.

Copies of state and local reports may also be obtained from state offices of the Soil Conservation Service in the following states:

STATE	ADDRESS
Alaska	P. O. Box "F", Palmer, Alaska 99645
Arizona	6029 Federal Building, Phoenix, Arizona 85205
Colorado (N. Mex.)	12417 Federal Building, Denver, Colorado 80202
Idaho	P. O. Box 38, Boise, Idaho 83707
Montana	P. O. Box 98, Bozeman, Montana 59715
Nevada	P. O. Box 4850, Reno Nevada 89505
Oregon	1218 S. W. Washington St., Portland, Oregon 97205
Utah	4012 Federal Building, Salt Lake City, Utah 84111
Washington	360 Federal Office Building, Spokane, Washington 99201
Wyoming	P. O. Box 340, Casper, Wyoming 82602

PUBLISHED BY OTHER AGENCIES

Water Supply Outlook reports prepared by other agencies include a report for California by the Water Supply Forecast and Snow Surveys Unit, California Department of Water Resources, P. O. Box 388, Sacramento, California 95802 --- and for British Columbia by the Department of Lands, Forests and Water Resources, Water Resources Service, Parliament Building, Victoria, British Columbia



UNITED STATES DEPARTMENT OF AGRICULTURE
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COOPERATIVE SNOW SURVEYS

Furnishes the basic data
necessary for forecasting
water supply for irrigation,
domestic and municipal water
supply, hydro-electric power
generation , navigation ,
mining and industry

*"The Conservation of Water begins
with the Snow Survey"*